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(54) Anchoring radial rafters to conservatory ridge

(57) An anchoring device (21) has a horizontal ridge beam (24) and two inclined rafters (23) secured to it. The anchoring device (21) has an upstanding side wall which includes seven quadrilateral plate-like portions (4), the external faces of which are adjacent and planar and are distributed around an arc of a circle, each of them sloping inwardly and downwardly. One or two holes in each of the seven portions (4), or only three of them, receive screws which fix to the anchoring device (21) the upper ends of seven, or three, inclined rafters (22).

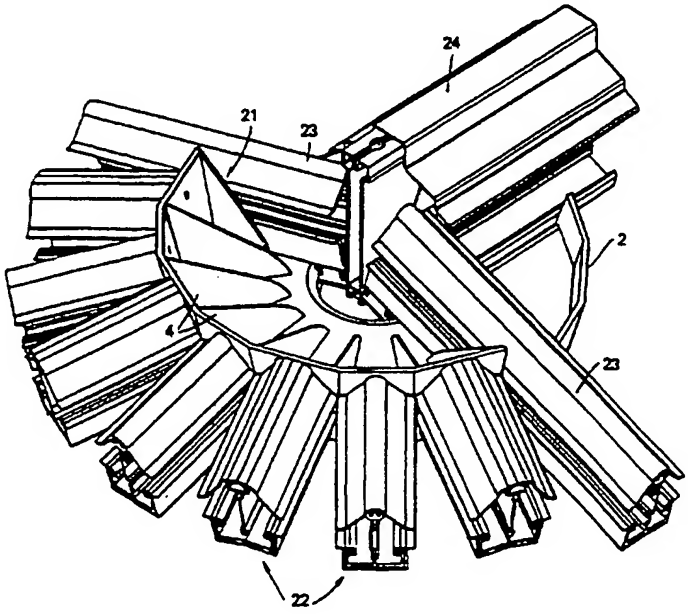

FIG. 3

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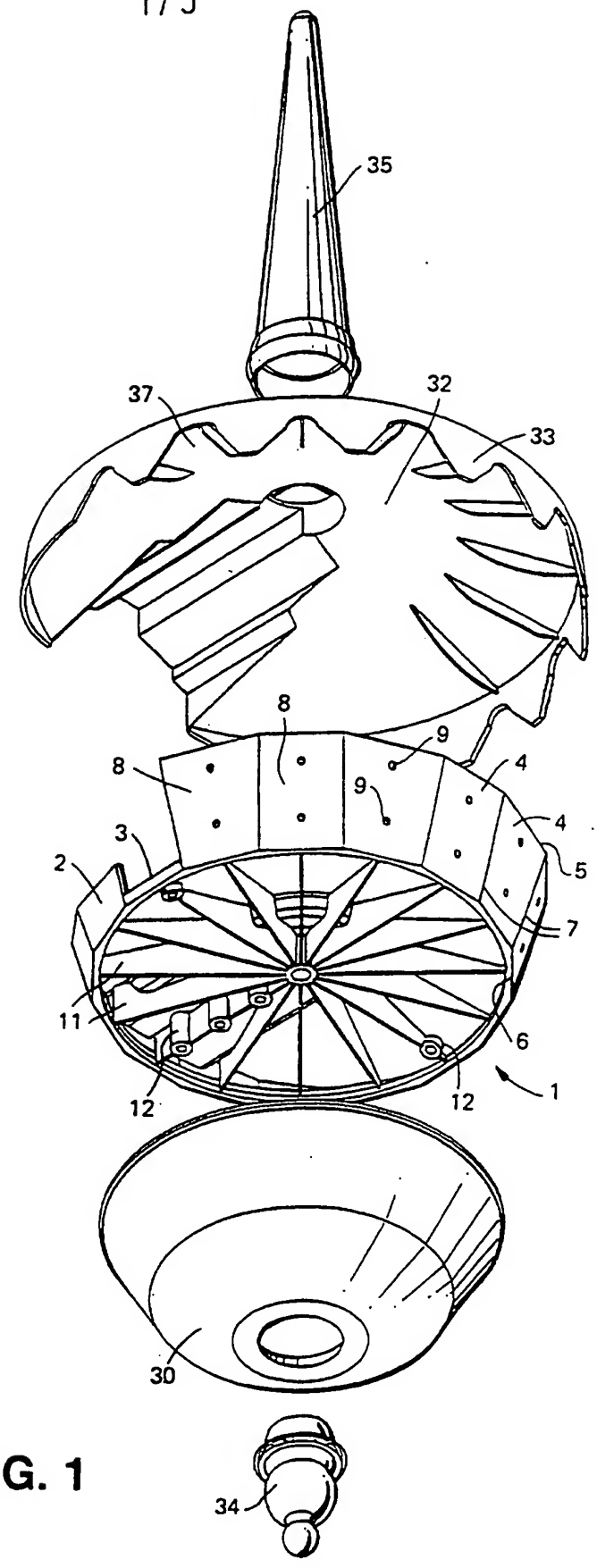

FIG. 1

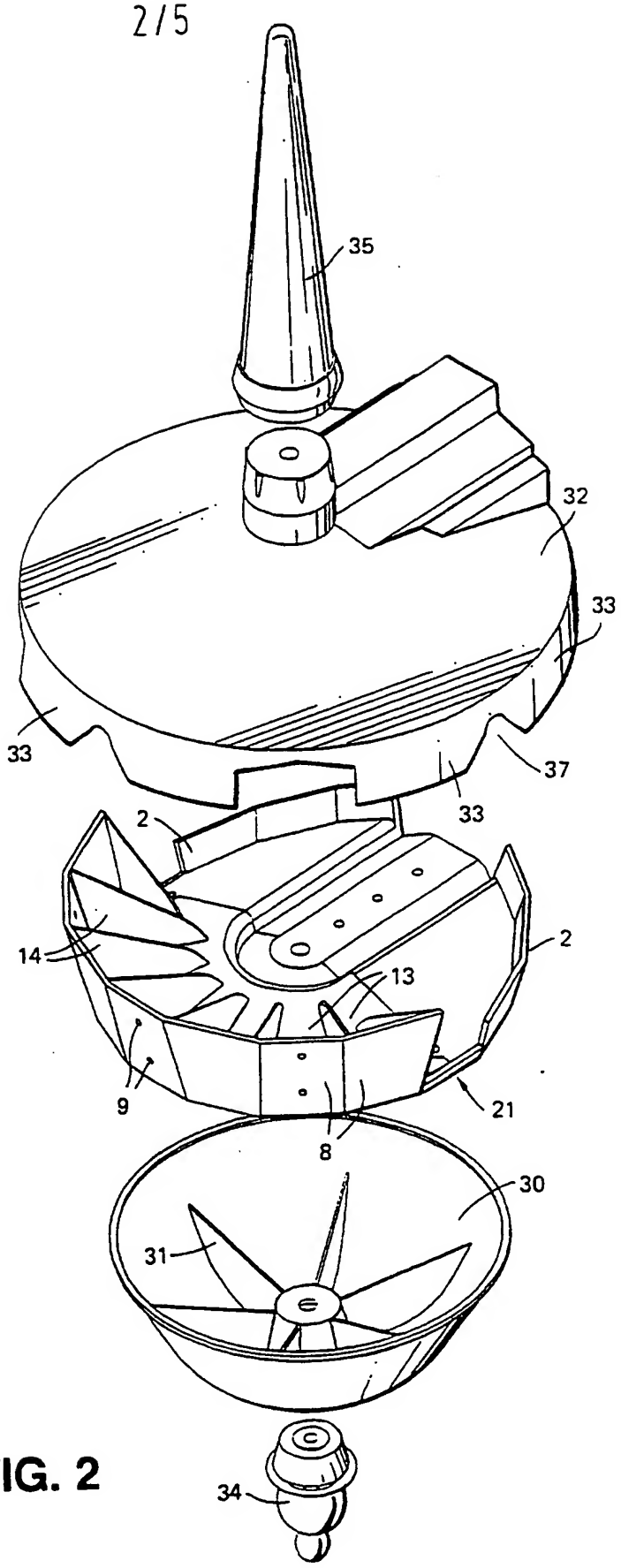

FIG. 2

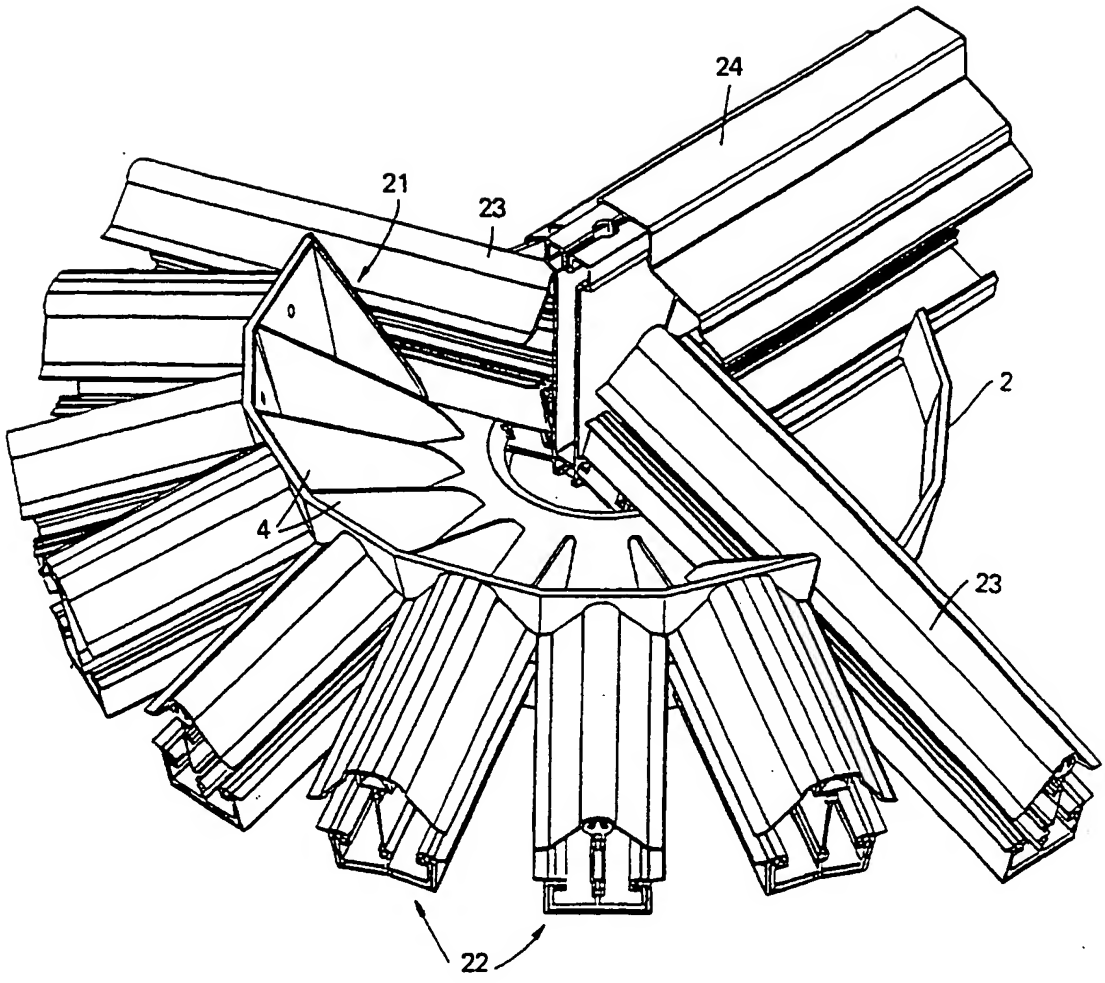

FIG. 3

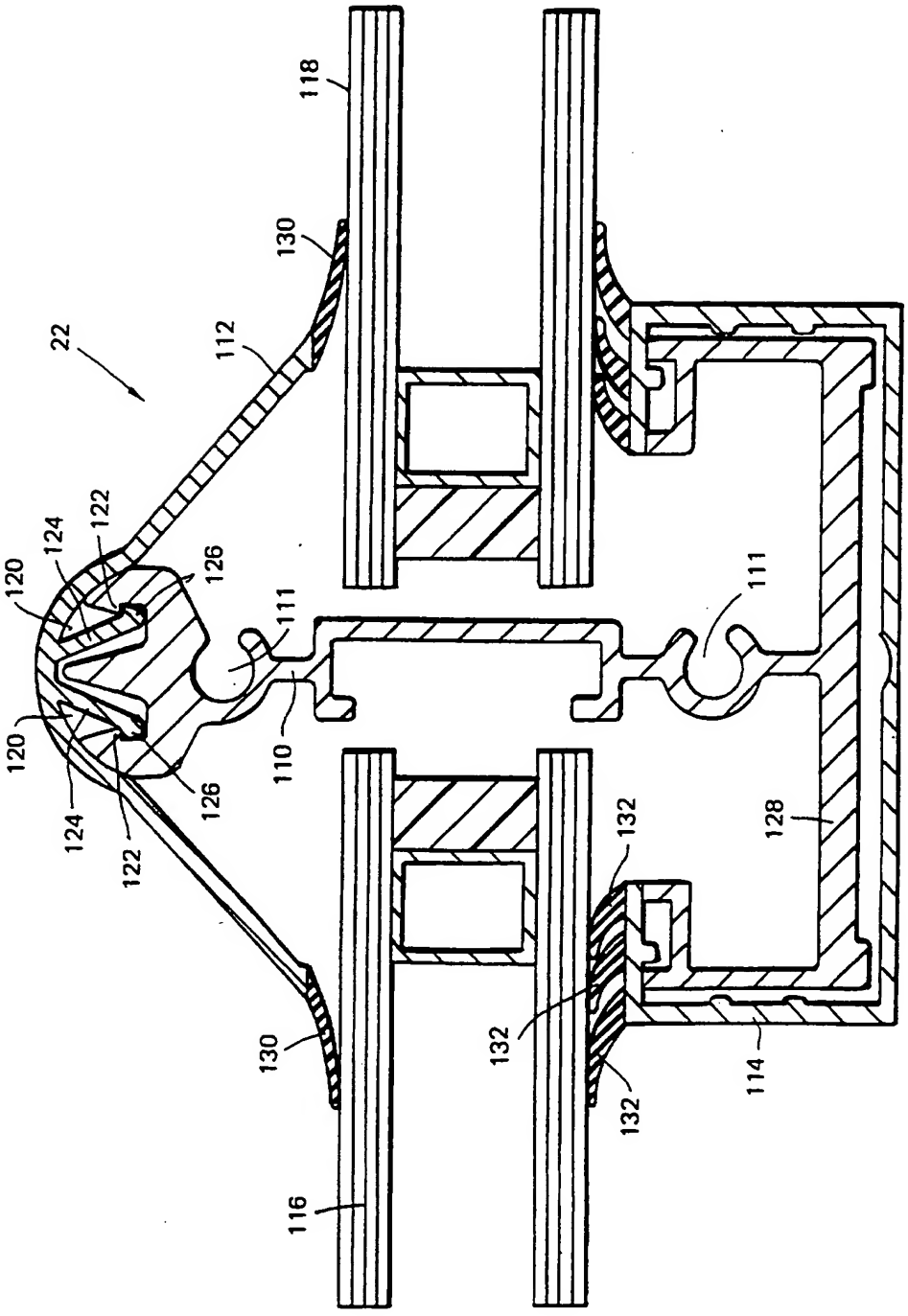

FIG. 4

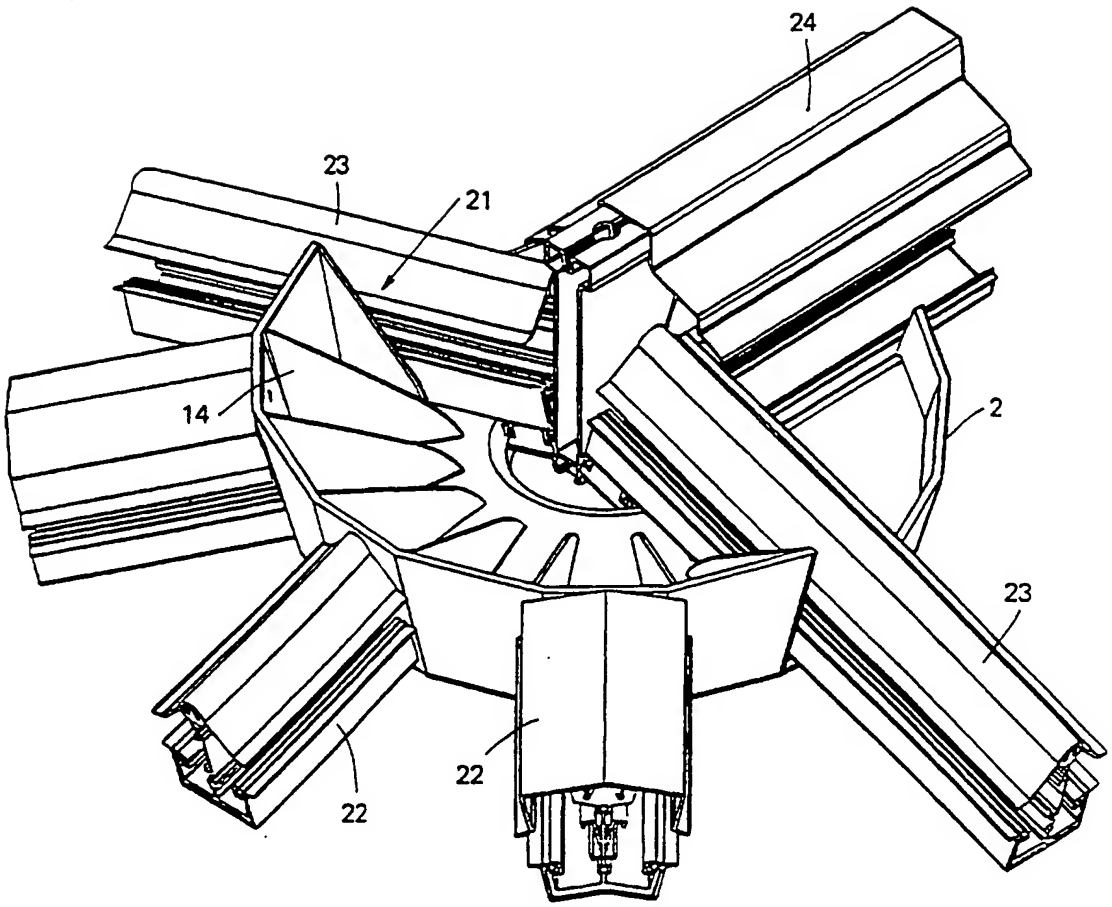

FIG. 5

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IMPROVEMENTS RELATING TO CONSERVATORY ROOFS

This invention relates to conservatory roofs.

According to a first aspect of the invention, there is provided an anchoring device which is suitable for constructing a conservatory roof, the anchoring device having an upstanding external side wall the outer surface of which includes a plurality of adjacent planar portions distributed around an arc of a circle and each sloping inwardly and downwardly in an in-use position of the anchoring device, at least some of the outer surface portions each being interrupted by a hole passing through the side wall to receive a fixing means, whereby angularly spaced inclined rafters may have their upper ends secured to the anchoring device at locations distributed around part of it.

In one example of an anchoring device according to the invention, the device is in the form of a dish having no base or lid but having a hub which is partially surrounded by said side wall and connected to it by radial vanes, the hub also being partially surrounded by further side wall parts and connected to them by further radial vanes.

In another example the device is in the form of a dish having a base but no lid, the base being connected to the side wall by radial vanes.

According to a second aspect of the invention, there is provided an assembly of an anchoring device according to the first aspect of the invention and a plurality of angularly spaced inclined rafters with their upper ends secured to the anchoring device at locations distributed around it.

Examples in accordance with the invention are described below with reference to the accompanying drawings, in which:-

Figure 1 shows an isometric view of a first anchoring device and of parts for concealing it in a conservatory roof,

Figure 2 shows a similar view including a second anchoring device,

Figure 3 shows an isometric view of an assembly of the second anchoring device and some rafters,

Figure 4 shows a cross-sectional view of one of the rafters and glazing panels supported by it, and

Figure 5 shows an isometric view of a second assembly of the second anchoring device and some rafters.

The various parts are described below in the positions which they have when in use.

Figure 1 shows an anchoring device 1 in the form of a dish having no base or lid. It has an upstanding side wall comprising portions 2 and 3, which are not mentioned below because they are not significant in relation to the invention, and seven further portions 4 which are each in the form of a quadrilateral plate having a horizontal upper side 5, a shorter horizontal lower side 6 parallel to the side 5 and two further sides 7. Thus the upstanding side wall has an outer surface which includes seven adjacent planar portions 8. These are distributed around an arc of a circle and each of them slopes downwardly and inwardly, that is to say their lower extremities are nearer a vertical axis (not shown) of the device than are their upper extremities. Each surface portion 8 is interrupted by two holes 9 which pass through the side wall of the device 1, although in principle it could be only one hole. It is also possible for only the second, fourth and sixth surface portions 8, proceeding around the arc, to be

interrupted by two holes 9 or only one hole.

The axis of the device 1 is surrounded by a tubular hub 10 which is connected by radial vanes 11 to the upstanding side wall. Three of these vanes include bosses 12 into which screws may be inserted.

The anchoring device 21 shown in Figure 2 again has an upstanding side wall with an external surface including seven planar portions 8 as described above but only the second, fourth and sixth are interrupted by holes 9, although all seven planar portions 8 could be interrupted by holes 9 and in both cases there could be only one hole 9 per portion 8. The device is in the form of a dish with a base 13, but no lid, and vanes 14 connect the seven portions 4 of the side wall to the base 13.

Figure 3 shows the device 21 secured by screws (not shown) through the holes 9 to the inner ends of seven similar rafters 22 which are angularly spaced. In a different form of roof, shown in Figure 5, which needs no further explanation, the first, third, fifth and seventh rafters, proceeding around the series of rafters, are omitted and in further variations the device 1 of Figure 1 is used instead of the device 21 of Figure 2 with seven or three rafters 22.

Whether there are seven rafters 22 or only three, two further inclined rafters 23 and a horizontal ridge beam 24 are secured to the anchoring device 1 or 21 by means which it is not necessary to describe here.

After the rafters and ridge beam have been fixed to the anchoring device 1 or 21, a bowl 30 with strengthening ribs 31 inside it and a cap 32 with a downwardly-extending skirt 33 are fixed to it, below and above it, respectively, by

a rod (not shown) which passes through the parts 32, 1 and 30, or 32, 21 and 30 and has decorative pieces 34 and 35 screwed on to both ends of it. The bowl 30 and cap 32 extend below and above the upper ends of all the rafters and they conceal the device 1 or 21.

The skirt 33 of the cap 32 has ten recesses 37, to receive nine rafters and a ridge beam, or only six recesses 37, whereas the same parts 30, 34 and 35, and the same part 1 or 21 (except for the number of holes 9) can be used whether there are to be nine rafters or only five.

The anchoring device 1 or 21 may be a single piece moulded from structural nylon and each of the parts 30, 32, 34 and 35 may be a single moulding of pvc, for example.

Figure 4 shows how a rafter similar in principle to the rafters 22 is constructed and how it receives two glazing panels. In contrast to what is shown in Figure 4, the two panels would be in mutually inclined planes when added to the structure shown in Figure 3.

The rafter 22 comprises a glazing bar 110, generally of inverted T-shaped cross-section and formed with sockets 111 to receive the screws which pass through the holes 9. Upper and lower cappings 112, 114 respectively are mounted on the glazing bar 110 and extend laterally on either side thereof for embracing the edges of respective translucent double glazing panels 116, 118 located one on each side of the bar 110.

The glazing bar 110 is preferably extruded from a lightweight metal or metal alloy such as aluminium, and the upper and lower cappings 112, 114 are preferably extruded from a relatively rigid weather and UV resistant plastics

material such as PVC.

The upper edge of the glazing bar 110 has a pair of substantially parallel channels 120 each having a stepped outer surface defining a respective downwardly facing hook 122, while the upper capping 112, which is generally of inverted V-shaped cross-section, has a pair of downwardly and outwardly divergent resilient legs 124 each having a stepped outer surface defining a respective upwardly facing hook 126.

As seen in the figure, the legs 124 of the upper capping 112 engage in respective ones of the channels 120 of the glazing bar 110 such that the hooks 126 engage behind the hooks 122 to retain the upper capping 112 on the upper edge of the glazing bar 110. It will be understood that the legs 124 of the upper capping 112 are resiliently compressed towards one another as they are inserted into the channels 120, and spring outwardly to the positions shown in the figure as the hooks 122, 126 engage behind one another.

The lower capping 114 is formed as a channel engaging the cross-bar 128 of the T-shaped cross-section glazing bar 110.

The upper and lower cappings 112 and 114 have integrally formed gaskets 130, 132 respectively which engage upper and lower surfaces respectively of the glazing panels 116 and 118. The gaskets 130, 132 are formed from rubber or other elastomeric material by co-extrusion with the PVC cappings 112 and 114 respectively.

CLAIMS

1. An anchoring device which is suitable for constructing a conservatory roof, the anchoring device having an upstanding external side wall the outer surface of which includes a plurality of adjacent planar portions distributed around an arc of a circle and each sloping inwardly and downwardly in an in-use position of the anchoring device, at least some of the outer surface portions each being interrupted by a hole passing through the side wall to receive a fixing means, whereby angularly spaced inclined rafters may have their upper ends secured to the anchoring device at locations distributed around part of it.

2. An anchoring device according to claim 1 in the form of a dish having no base or lid but having a hub which is partially surrounded by said side wall and connected to it by radial vanes, the hub also being partially surrounded by further side wall parts and connected to them by further radial vanes.

3. An anchoring device according to claim 1 in the form of a dish having a base but no lid, the base being connected to the side wall by radial vanes.

4. An assembly of an anchoring device according to any preceding claim and a plurality of angularly spaced inclined rafters with their upper ends secured to the anchoring device at locations distributed around it.

5. An assembly according to claim 4 and further comprising a bowl below the anchoring device and a cap above it, the bowl and cap extending below and above the upper ends of the rafters, the cap including a

downwardly-extending skirt formed with one recess for each rafter in the assembly.

6. An assembly according to claim 5 in which the bowl, said anchoring device and the cap are secured together by a rod which passes through them and has decorative portions screwed on to both ends.

7. An anchoring device substantially as hereinbefore described with reference to Figure 1 or Figure 2 of the accompanying drawings.

The Patent Office

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Application No: GB 9617260.6
Claims searched: 1 - 7

Examiner: J D Cantrell
Date of search: 23 September 1996

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): E1D; DDJ,DF172,DGS

Int Cl (Ed.6): E04B7/06

Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
A	GB 2256658 A	PARK LANE	-
A	GB 2218127 A	SCHOLES	-

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
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